- **ablation** describes processes that remove snow or ice from a glacier, including melting, evaporation, wind erosion, and sublimation
- accretion an increase by natural growth or by gradual external addition
- action level the Food and Drug Administration's recommended limit for a toxic substance in the edible portion of a fish, above which fish are not safe to consume and interstate sales are not allowed
- acute aquatic criterion "AAC", the highest concentration of chemical that, if met instream will protect the aquatic life present from mortality or other irreversible effects due to short-term exposure.
- adiabatically occurring without loss or gain of heat
- air mass a large portion of the atmosphere that is fairly uniform in temperature and humidity
- alluvium a general term describing deposits of clay, silt, sand, gravel, or other particulate rock material in a streambed, on a floodplain, or on a delta
- anion An atom or molecule that has gained one or more electrons and posseses a negative electrical charge.
- anthropogenic relating to the impact or influence of humans or human activities on nature.
- aquifer a saturated geologic unit that can transmit significant quantities of water under ordinary hydraulic gradients
- aquifer system a heterogeneous body of permeable and poorly permeable materials that functions regionally as a water-yielding unit; it consists of two or more aquifers separated at least locally by confining units that impede ground-water movement, but do not affect the overall hydraulic continuity of the system
- aquitard a confining layer that retards but does not prevent the flow of water to or from an adjacent aquifer
- argillaceous pertaining to, largely composed of, or containing claysized particles or clay minerals
- aromatic compound any of a class of organic compounds containing an unsaturated ring of carbon atoms, as benzene or naphthalene and their derivatives, and usually having an agreeable odor artesian see confined
- **back-barrier** refers to an environment which lies landward of an elongate sand ridge extending generally parallel with the shore
- backwater water held or forced back, as by a dam, flood, tide, etc.
  bank storage the water absorbed into the banks of a stream channel when the stage rises above the water table, then returns to the channel as effluent seepage when the stage falls below the water
- basal contact the bottom interface of a rock unit
- basal tills refers to tills originating from the zone of the glacier near the hed
- **base flow** the portion of stream flow derived largely or entirely from ground-water discharge
- **benthic** describes organisms, sediment, and other material at the bottom of an aquatic system
- **bioaccumulative** in this usage, referring to or relating to substances capable of undergoing bioconcentration in organisms
- **biochemical oxygen demand (BOD)** the amount of dissolved oxygen needed for the decomposition of organic matter in water
- bioconcentration the increase in concentration of the chemical of concern and its metabolites in or on the target organisms (or

- specified tissue) relative to the concentration of the chemical of concern in the ambient water
- bioturbation biotic processes, such as direct uptake and disturbance, which separate materials, including contaminants, from bottom sediments in an aquatic ecosystem and make such materials bioavailable to accumulate in the food chain
- bog a poorly drained wetland, usually found in a glacial depression, which is characterized by the presence of saturated organic soil (peat) and acidic ground water; plant decomposition is very slow in this environment
- calcareous describes a rock or sediment that contains calcium carbonate
- carcinogenic capable of producing a cancer
- cation an atom or molecule that has lost one or more electrons and possesses a positive charge.
- centrarchid an individual that is a member of the sunfish family. The sunfish family includes the black basses, rock bass, sunfish, and bluegill
- channel slope the difference in elevation between points 10 percent and 85 percent of the distance along the channel from a gaging station (or discharge point) upstream to the watershed boundary, divided by the distance between the two points; expressed in feet per mile
- channelization in this usage, any excavation and construction activities intended to widen, deepen, straighten or relocate a natural river channel; the term does not include maintenance activities on existing channels, such as the clearing of debris or dredging of accumulated sediments
- chlorinated introduction of a halogen (chlorine) into an organic compound
- chronic aquatic criterion "CAC", the highest concentration of chemical that, if met instream will protect the aquatic life present from toxic effects due to long-term exposure, e.g., adverse effects on growth and reproduction
- colluvium loose rock debris at the foot of a slope or cliff deposited by rock falls, landslides and slumpage
- **combined sewer overflow** a discharge composed of untreated or partially treated sewage mixed with stormwater
- confined describes an aquifer which lies between impermeable formations; confined ground-water is generally under pressure greater than atmospheric; also referred to as artesian
- conformable describes strata or groups of strata lying one above another in parallel order
- contaminant (drinking water) as defined by the U.S. Environmental Protection Agency, any physical, chemical, biological, or radiological substance in water, including constituents which may not be harmful
- continuous-record station a site on a stream or lake where continuous, systematic observations of stage and/or discharge are obtained by recording or nonrecording instruments and periodic measurements of flow
- crest-stage station a site on a stream or lake where peak stage and/ or discharge data are collected systematically over a period of years
- **debris-flow tills** a high-density flow of water-laden sediment which results from the direct action of gravity on a body of sediment, with properties indicating a degree of internal strength

- deltaic sequences a succession of deltaic deposits arranged in chronologic order to show relative position and age with respect to geologic history as a whole
- detection limit is the amount of constituent that produces a signal sufficiently large that 99 percent of the trials with the amount will produce a detectable signal 5 X the instrumental detection limit
- diatom any of numerous microscopic, marine or fresh-water algae having siliceous cell walls
- direct runoff see runoff, direct
- dissecting the process of being cut by erosion into hills and valleys or into flat upland areas separated by valleys
- drainage basin the land area drained by a river and its tributaries; also called watershed or drainage area
- **drawdown (ground water)** the difference between the water level in a well before and during pumping
- dune a sand hill or sand ridge formed by the wind
- ecoregion an area or region of relative homogeneity in ecological systems. It is defined by map overlays of soil, geology, geomorphology, potential natural vegetation, and land use. Six ecoregions are recognized in Indiana: Interior River Lowland, Interior Plateau, Eastern Corn Belt Plain, Central Corn Belt Plain, Southern Michigan-Northern Indiana Till Plain, and Huron-Erie Lake Plain
- ecosystem the community of plants and animals interacting together and with their physical and chemical environment
- effluent streams a stream or reach of a stream that receives water from the zone of saturation and provides base flow; its channel lies below the water table
- end moraine see moraine, end
- englacial channels refers to channels occurring within the glacier but above any debris-rich basal zones
- eolian describes sediments deposited after transport by wind ephemeral gully erosion see erosion, ephemeral gully
- epilimnion the uppermost layer of water in a lake, characterized by an essentially uniform temperature that is generally warmer than elsewhere in the lake and by a relatively uniform mixing caused by wind and wave action
- erosion, ephemeral gully uneven removal of soil on tilled land caused by runoff waters converging and flowing along a concentrated flow path, causing scouring of land; a short-term feature, obscured by tillage, which normally occurs more than once per year
- erosion, gully uneven removal of soil by running water that forms distinct, narrow channels that are larger and deeper than rills and that cannot be obscured by normal tillage operations
- erosion, rill uneven removal of soil by running water that forms many small, closely-spaced channels, typically a few inches deep, that can be obscured by normal tillage operations
- erosion, sheet removal of a thin, fairly uniform layer of soil from an extensive area of gently sloping land by broad, continuous sheets of running water or by wind
- eutrophic in this usage, streams or lakes characterized by an abundant accumulation of nutrients that support a dense growth of plant and animal life, the decay of which depletes the shallow waters of oxygen in summer
- eutrophication in this usage, a general term describing the process by which lakes and streams become enriched by high concentrations of nutrients such as nitrogen and phosphorus
- eutrophy the state of being eutrophic; see above
- evapotranspiration a collective term that includes water dis-

- charged to the atmosphere as a result of evaporation from the soil and surface-water bodies and by plant transpiration
- facies features, such as bedding characteristics or fossil content, which characterize a sediment as having been deposited in a unique environment
- fecal coliform bacteria that occur naturally in the intestines of humans and animals; bacterial counts in waterways are used as indicators of pollution from human and animal waste
- fen a saturated wetland characterized by the presence of basic or calcareous ground water (as contrasted to a bog); often found as seepage areas on gentle slopes comprised of glacial deposits
- **finished water** water that has been treated and is ready for distribution
- **flood**, 100-year a statistically-derived flood discharge having an average frequency of occurrence of once in 100 years, or a one percent chance of being equaled or exceeded in any given year
- flowing well a well completed in a confined aquifer in which the hydrostatic pressure is greater than atmospheric pressure, and the water rises naturally to an elevation above land surface
- fluvial of or pertaining to rivers
- **foreshore** the ground between high-water mark and low-water mark **fossiliferous** containing fossils, which are preserved plant or animal imprints or remains
- gamma-ray logs the radioactivity log curve of the intensity of natural gamma radiation emitted from rocks in a cased or uncased borehole. It is used for correlation, and for distinguishing shales and till (which are usually richer in naturally radioactive elements) from sand, gravel, sandstone, carbonates, and evaporites
- **geomorphic** describes physical characteristics of the land surface that are the result of geologic processes
- glacial lobe one of the lobate protrusions of the margin of a slowly moving ice mass (glacier) originating from the compaction of snow
- glaciofluvial of or pertaining to rivers associated with glaciers glaciolacustrine - pertaining to, produced by, or formed in a lake or lakes associated with glaciers
- grab sample water collected at a single location and at a single time as opposed to a sample composited over space or time
- granitic a term loosely applied to any light-colored, coarse-grained plutonic rock containing quartz as an essential component, along with feldspar and mafic minerals
- ground-water discharge in this usage, the part of total runoff which has passed into the ground and has subsequently been discharged into a stream channel
- gully erosion see erosion, gully
- gypsiferous containing gypsum, a mineral consisting of hydrous
- Health Advisories (HAs) provide the level of a contaminant in drinking water at which adverse non-carcinogenic health effect would not be anticipated with a margin of safety
- herbaceous with the characteristics of a herb; a plant with no persistent woody stem above ground
- highly erodible (cropland) as defined by the U.S. Department of Agriculture, Soil Conservation Service, land on which the potential erosion is at least eight times the rate at which the soil can maintain continued productivity
- Holocene geologically recent times, from approximately 10,000 years ago to present
- horizon (soils) a layer of soil, approximately parallel to the land surface, having distinct characteristics produced by soil-forming

- processes
- hummocky describes glacial deposits arranged in mounds with intervening depressions
- hydraulic conductivity a parameter that describes the conductive properties of a porous medium; often expressed in gallons per day per square foot
- hydraulic head the height of the free surface of a body of water above a given subsurface point
- hydric soil soil that in its undrained condition is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation
- hydrophyte plants typically found in wet habitats; any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content
- hydrostatic pressure the pressure exerted by the water at any given point in a body of water at rest. The hydrostatic pressure of ground water is generally due to the weight of water at higher levels in the zone of saturation.
- hypolimnion the lowermost layer of water in a lake, characterized by an essentially uniform temperature (except during a turnover) that is generally colder than elsewhere in the lake, and often by relatively stagnant or oxygen-poor water
- Hypsithermal a term proposed as a substitute for climatic optimum and thermal maximum. It represents the Holocene interval when "most of the world entered a period when mean annual temperatures exceeded those of the present"
- ice karst a type of topography in a glacial terrain that is characterized by closed depressions, caves, and underground drainage
- igneous describes rocks that solidified from molten or partly molten material
- immunoassay is a quantitative or qualitative method of analysis for a substance which relies on an antibody or mixture of antibodies as the analytical reagent. Antibodies are produced in animals in response to a foreign substance called an antigen. The highly sensitive and specific reaction between antigens and antibodies is the basis for immunoassay technology
- incised describes the result of the process whereby a downwarderoding stream deepens its channel or produces a narrow, steepwalled valley
- industry in this usage, a general term encompassing all major employment categories
- **infiltration** the process (rate) by which water enters the soil surface and which is controlled by surface conditions
- interflow the part of precipitation which infiltrates the surface soil, and moves laterally toward streams as perched ground water
- International Great Lakes Datum (IGLD) the reference system by which Great Lakes-St. Lawrence River Basin water levels are measured. It consists of benchmarks at various locations on the lakes and St. Lawrence River, which are referenced to a point in the St. Lawrence River that roughly coincides with sea level. All water levels are measured in feet or meters above this point. Movements in the earth's crust necessitate updating this datum every 25-30 years. The first IGLD was based upon measurements and benchmarks that centered on the year 1955, and it was called IGLD (1955). The most recently updated datum uses calculations that center on 1985, and it is called IGLD (1985).
- interpolate to estimate intermediate values of a function between two known points
- ion exchange the process of reciprocal transfer of ions

- isostatic pertaining to the equilibrium of the earth's crust, a condition in which the forces tending to elevate balance those tending to depress
- karst topography characterized by closed depressions or sinkholes, caves, and underground drainage formed by dissolution of limestone, dolomite or gypsum
- kettle hole a steep-sided, usually basin- or bowl-shaped hole or depression, commonly without surface drainage, in glacial drift deposits, often containing a lake or swamp; formed by the melting of a large, detached block of stagnant ice (left behind by a retreating glacier) that had been wholly or partly buried in the glacial drift
- lacustrine pertaining to, produced by, or formed in a lake or lakes lakeshore lake front or land along the edge of a lake
- **leeward** pertaining to, situated in, or moving toward the quarter toward which the wind blows
- **lenticular** resembling in shape the cross section of a lens, especially of a double-convex lens
- **lithofacies** a lateral, mappable subdivision of a designated stratigraphic unit, distinguished from adjacent subdivisions on the basis of lithology
- lithologic describes the physical character of a rock; includes features such as composition, grain size, color and type of bedding
- **lithostratigraphic unit** a defined body of strata that is distinguished and delimited on the basis of lithic characteristics and stratigraphic position
- loam describes a soil composed of a mixture of clay, silt, sand, and organic matter
- macrophyte a plant large enough either as an individual or in communities to be readily visible without the aid of optical magnification
- major land resource area as defined by the U.S. Department of Agriculture, Soil Conservation Service, a geographic area characterized by a particular pattern of soils, climate, water resources, and land uses
- marsh a wet, level, treeless area covered mostly with grasses, sedges or cattails and usually underlain by a mucky or mineral soil; sometimes referred to as a wet meadow
- mass movement a unit movement of a portion of the land surface; gravitative transfer of material down a slope
- maximum contaminant level the maximum permissible level of a contaminant in water which is delivered to the free-flowing outlet of the user of a public water system
- mean arithmetic average of a set of observations
- median middle value of a set of observations arranged in order of magnitude
- meltwater water resulting from the melting of snow or glacial ice mesoscale medium or intermediate in scale
- metabolite a product of metabolic action
- methemoglobinemia a disease, primarily in infants, caused by the conversion of nitrate to nitrite in the intestines, and which limits the blood's ability to transport oxygen.
- moraine unsorted, unstratified glacial drift deposited chiefly by the direct action of glacial ice
- moraine, end a ridgelike accumulation of drift built along any part of the outer margin of an active glacier
- moraine, ground material (primarily till) deposited from a glacier on the ground surface over which the glacier moved, and generally forming a region of low relief

- morphometric in this usage, of or pertaining to the structure and form of a lake
- morphometry in this usage, the structure and form of a lake
- moving average a consecutive chronological sequence of arithmetic averages
- muck a highly organic dark or black soil less than 50 percent combustible
- mutagenic capable of inducing a mutation or alteration
- **nearshore** extending lakeward an indefinite but generally short distance from the shoreline
- nearshore sediments sediments deposited in an environment which extends seaward or lakeward an indefinite but generally short distance from the shoreline
- nektonic describes the aggregate of actively swimming aquatic organisms in a body of water, able to move independently of water currents
- non-halogenated volatile organic compound a volatile organic compound which has not been combined with a halogen such as fluorine, chlorine, bromine, etc (see volatile organic compound)
- **normal (climate)** the average (or mean) value for a particular parameter over a designated period, usually the most recent 30year period ending every decade
- Ordinary High Water Mark (OHWM) the line on the shore of a waterway established by the fluctuations of water and indicated by physical characteristics. Examples of such physical characteristics include the following: a) a clear and natural line impressed on the bank; b) shelving; c) changes in the character of the soil; d) destruction of terrestrial vegetation; e) presence of litter or debris
- organic (soils) containing partially decomposed plant remains; formal designation depends on relative percentage of organic material and clay
- orographic lifting the rising and adiabatic cooling of air as it passes upward over mountains or rough terrain
- outwash sand and gravel deposited by meltwater streams in front of or beyond the margin of active glacial ice
- outwash apron a broad slope formed by coalescing outwash fans deposited by meltwater streams
- outwash cone a steeply-sloping, cone-shaped accumulation of outwash deposited by meltwater streams flowing in front of or beyond a glacier
- outwash fan a fan-shaped accumulation of primarily sand and gravel deposited by meltwater streams flowing in front of or beyond a glacier
- overbank describes water or sediment carried out of a stream channel onto the surrounding land surface during a flood
- **overland flow** the part of runoff which passes over the land surface to the nearest stream channel
- **oxbow** a sharp bend in a river forming a distinct crescent or U-shape **paleoshoreline** an ancient shoreline
- palustrine includes wetlands dominated by vegetation such as trees, shrubs and persistent emergents; or an area less than 20 acres lacking such vegetation and having a water depth less than 6.6 feet at low water
- parabolic having the form or outline of a parabola
- paraconformably not really or not quite conformable
- parent material (soils) the horizon of weathered rock or partly weathered soil material from which soil is formed
- partial-record station a site where limited stream-flow and/or water quality data are collected systematically over a period

- of years
- pathogen any disease-producing organism
- peat a highly organic soil more than 50 percent combustible, composed of partially decayed vegetable matter found in marshs or damp regions, which is cut and then dried for use as fuel
- per capita income the total money income of the residents of a given area divided by the resident population of that area; as defined by the U.S. Bureau of the Census, total money income is the sum of all sources of cash income, excluding transfer payments, the imputed value of non-monetary income, and other income included under the Bureau of Economic Analysis' definition of personal income
- **percolate (geology)** to seep downward from an unsaturated zone to a saturated zone
- permeability the capacity of a porous medium to transmit a fluid; highly dependent upon the size and shape of the pores and their interconnections
- photosynthesis the synthesis of complex organic materials, esp. carbohydrates, from carbon dioxide, water, and inorganic salts, using sunlight as the source of energy and with the aid of a catalyst, as chlorophyll
- physiographic region an area of characteristic soils, landforms and drainage that have been developed on geologically similar materials
- phytoplankton an assemblage of suspended or floating microscopic plants that drift passively with water currents
- piezometric surface an imaginary surface representing the level to which water from a given aquifer will rise under the hydrostatic pressure of the aquifer
- **plankton** an assemblage of suspended or floating microscopic plants and animals that drift passively with water currents
- Pleistocene geologic epoch corresponding to the most recent ice age; beginning about 2 million years ago and ending approximately 10,000 years ago
- **polychlorinated biphenyls (PCBs)** a family of chlorinated hydrocarbons potentially toxic to animals and humans and that persists in the environment for as long as 30 years
- porosity the amount of pore space; specifically, the ratio of the total volume of voids to the total volume of a porous medium
- Precambrian basement the crust of the Earth below sedimentary deposits, extending down to the boundary of the mantle; in this case, of Precambrian age
- **probable maximum precipitation** the theoretically greatest depth of precipitation for a given duration that is physically possible over a particular drainage basin at a certain time of year
- proglacial describes deposits formed just beyond the outer limits of a glacier
- progradation a seaward advance of the shoreline resulting from the nearshore deposition of sediments brought to the sea by rivers
- projected describes a number based on trends and patterns of the past
- pumping test a test conducted by pumping a well at a constant rate for a period of time, and monitoring the change in hydraulic head in the aquifer
- raw water water direct from the source, prior to any treatment
- recurrence interval the average number of years within which a stream-flow event is expected to occur once
- recharge (ground water) the process by which water is absorbed and added to the zone of saturation
- reducing describes the process of removing oxygen from a

compound

relict - said of a topographic feature that remains after other parts of the feature have been removed or have disappeared

rill erosion - see erosion, rill

- runoff, direct water entering a stream channel promptly after a precipitation event; it is presumed to consist of surface runoff and a substantial portion of the interflow
- runoff, surface water which passes over the land surface to the nearest stream channel (overland flow) plus precipitation falling directly onto the stream
- runoff, (total) the part of precipitation that appears in surface-water bodies; it is the same as stream flow unaffected by artificial manipulation
- saline describes water that contains a high concentration of dissolved solids, typically greater than 10,000 milligrams per liter
- salmonid belonging or pertaining to the family Salmonidae, including the salmons, trouts, chars, whitefishes, etc.
- savanna grassland region with scattered trees (average tree canopy cover less than 50 percent), grading into either open plain or woodland
- sedimentary rock formed by the deposition of sediment
- seismic pertaining to an earthquake or earth vibration, including those that are artificially induced
- senescence (lakes) approaching the end stages of eutrophication when the lake is being filled in by organic sediments and aquatic weeds
- sheet erosion see erosion, sheet
- skewed describes the state of asymmetry of a statistical frequency distribution, which results from a lack of coincidence of the mode, median, and arithmetic mean of the distribution
- slough a backwater area or remnant of a former river channel which contains standing water and serves as the main river channel only during high water
- solvent extraction a process which involves use of a solvent to treat and extract organic contaminants from sediments
- specific conductance the ability of a body of unit length and unit cross-sectional area to conduct an electrical current at a specific temperature. In general, the specific conductance of water is proportional to the total amount of dissolved solids.
- standard industrial classification code a four-digit code established by the Office of Management and Budget, and used in the classification of establishments by type of activity
- static water level the level of water in a well that is not being affected by withdrawal of ground water
- stratigraphy the geologic study of the formation, composition, sequence and correlation of unconsolidated or rock layers
- surface runoff see runoff, surface
- swamp a forested wetland that usually is seasonally flooded and that is dominated by either trees or shrubs; the interior of swamps may contain open-water areas such as ponds
- swale a slight depression, sometimes swampy, in the midst of generally level land
- teratogenic capable of producing monstrous or abnormal growths and/or birth defects

- thermocline the horizontal plane in a thermally stratified lake located at the depth where temperature decreases most rapidly with depth
- till sediment transported by and deposited from glacier ice with little or no sorting by water, and consisting of a heterogeneous mixture of clay, sand, and gravel varying widely in size and shape
- till plain an extensive area with a flat to undulating surface, underlain by till and commonly covered by ground moraines and subordinate end moraines
- time of concentration time it takes for the first raindrop fallen at the most distant point of the drainage area to reach the outlet of the watershed
- topography the relief and contour of a surface, especially land surface
- total runoff see runoff, total
- toxic describes materials which are or may become harmful to plants or animals when present in sufficient concentrations
- **transgression** the spread or extension of the sea over the land areas **transmissivity** the rate at which water is transmitted through a unit width of an aquifer under a unit hydraulic gradient
- **transmission (soils)** process by which water moves through the soil and which is controlled by the soil horizons
- **transpiration** process by which water is evaporated from plants, primarily through microscopic air spaces in their leaves
- trophic concerned with nutritive processes
- tunnel valley wide, linear channel oriented perpendicular to an ice margin and eroded into the substrate below the ice sheet. A tunnel valley typically represents a major route for meltwater draining part of an ice sheet, and exiting the front of that ice sheet
- unconfined describes an aquifer whose upper surface is the water table which is free to fluctuate under atmospheric pressure
- unconformably not succeeding the underlying rocks in immediate order of age or not fitting together with them as parts of a continuous whole
- unit (discharge) a general term describing a stream-flow parameter calculated on a unit-area basis, usually per square mile, during a specified period of time
- upper shoreface wave-washed zone extending lakeward or seaward from the mean low water level to 1 meter in depth; characteristic deposits are parallel-laminated sand
- volatile organic compounds a chemical compound composed mostly of carbon and hydrogen, that easily evaporates (for example, trichloroethylene, or TCE)
- waterspout a funnel-shaped or tubular portion of a cloud over the ocean or other body of water which, laden with mist and spray, resembles a solid column of water reaching upward to the cloud from which it hangs
- water table the upper surface of the zone of saturation below which all voids in rock and soil are saturated with water
- water-table control structure a structure placed in a ditch or tile line to alter the water-table elevation for subsurface irrigation and/or drainage purposes
- watershed see drainage basin